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VII.—*Notes on a Journey to Kordofán, in 1836-7.* By ARTHUR
T. HOLROYD, Esq.

[Read 25th February, 1839.]

IT was not until I had arrived at Wádí Halfah, at the second or great cataract of the Nile, in lat. 22° N., that I finally resolved to penetrate into the Beléd-es-Súdán (countries of the Blacks), and even then I did not anticipate prosecuting my journey beyond the ruins of Musawwerát,* in the neighbourhood of Shendi, or at the utmost to Khartúm (Proboscis), the seat of the Páshá's government for the provinces to the south of the second cataract. The sequel will show that I visited Sennár, and then proceeded to the west to El 'Obeíd,† the capital of Kordofán.

In the afternoon of December 5th, 1836, having engaged camels at 35 piastres each, I left Wádí Halfáh, accompanied by Háií Suleimán my interpreter, and 'Alí an inferior domestic; and, having crossed the Nile, determined to take the road on its west bank to New Dongola (Donkolah). Our route lay through Abú-sír, Tahtí, Kagní, Semneh, Askur, Melik-en-naṣr, and 'Okmeh, all small villages consisting of only a few huts: at this latter place there is a hot saline spring close to the river; it is about 4 miles S. from the village. A small quadrangular burnt-brick ruin, without either door or window, but with an opening at the top, now nearly closed by the drifted sand, shows that this was, in all probability, anciently used as a bath. At the back of this building is the principal spring, which is so close to the edge of the river, that it must be concealed during the inundation. The temperature of this water at its source is 130° of Fahrenheit. Smaller and more insignificant springs ooze through the ground on each side of the principal one to the distance of 250 paces, and the saline matter left by the evaporation gave the bank a frosty appearance. The peasants of 'Okmeh have an idea that the hot spring comes under ground from the Oasis of Selímah, 70 miles to the W., where there is abundance of muriate of soda in a state of great purity; and I afterwards asked an intelligent camel-driver, who had made many excursions to Selímah, at what point he thought he should come upon the Nile if he travelled due E. from Selímah, and he replied at 'Okmeh. This is strongly corroborative of the position of Selímah laid down by Mr. W. G. Browne, and of its position relative to 'Okmeh as given in Mr. John Arrowsmith's map. From 'Okmeh we passed through Dál, Sákīyat el Abt, Deir Ḥamíd, Sedaëngä, Dóshe, So-leib, Kóyeh, Tináreh, Gurgód, Saesa, Marakol, Hannek, and

* Muṣawwerát, "the figured (buildings)," is misspelt, as is often the case, in M. Cailliard's table of proper names.—F. S.

† Vulgarly pronounced L'obeyet: it means "the little slave."—F. S.

Hafír, to New Donkolah, which I reached at noon on the 22nd of December. The journey is usually performed in ten days, but I stopped on the road to examine all the antiquarian remains.

U'rdeh, A'gí,* Marákah,† or New Donkolah (for it is known by all these names), has sprung into a place of importance within the last twelve years. The population is estimated at 6000, including 800 troops, their wives and families, an estimate which appeared to me much too high. The number of Copts is about 100. The bázár is daily increasing, and is supplied from Cairo; the principal articles brought from thence being shoes, printed cottons, calicoes, sugar, rice, cloth, hardware, &c. The duties upon goods entering New Donkolah are heavy, so that articles of consumption are dear, in many instances treble or quadruple what they are in Cairo. Donkolah can boast of a coffee-house. The government is at present building baths, and there is already a large manufactory for indigo. The thermometer on Christmas-day stood in the shade at 2 P.M. at 86°, and at 8 P.M. at 80°. The position of New Donkolah, as stated by M. Linant, is 19° 7' 30" N. lat. and 29° 54' 35" long. E. of Greenwich.‡ The town is placed on the edge of the river, the banks of which, when the water is lowest, are about 25 feet high, and I should think that the Nile rises here about 18 or 20 feet.

On the 31st of December, having procured a boat, I left New Donkolah, and on the afternoon of the 3rd January, 1837, I reached Old Donkolah. The town is in ruins, and does not contain a population of more than 300. The most striking object here is a mosque on rather an elevated site, from the top of which there is an extensive prospect of the arid Desert and meandering Nile. The sand is of a very bright yellow colour, and has accumulated in such quantities as in many places to conceal the houses; its surface being level with their roofs, and the entrance to the apartments being through the ceiling of the rooms. There is no land capable of cultivation near the ruined town; in short, almost all the east bank of the river, between Old and New Donkolah, is covered with drifted sand, and rare is it to see even a few feet of cultivable soil. Our direction from Old Donkolah was S.E., then due E. until near Ambukol, whence we travelled a few miles a point to the N. of E.

The only object of interest in the neighbourhood of Ambukol is a portion of desert near the river, about 8 miles W. of the village. This waste is called *Haagbarlak*. The superficial stratum here is a coarse sandstone, curious and interesting from its

* The court, a Turkish term.—F.S.

† Capital of one of the ancient ecclesiastical divisions of Nubia (Quatremère, Mémoires sur l'Egypte et la Nubie).—F. S.

‡ Dr. Ruppell gives its lat. 19° 10' 19", long. 30° 22' 15" E.

containing many siliceous fossil trees. I observed five or six, the largest of which, situated 20 minutes' walk from the river, is 51 feet in length and 20 inches in diameter at its largest extremity. It is partially buried in the sand. The peasantry splinter off fragments and use them for gun-flints, and to strike a light. It appeared to me that these fossils were dom-trees (*Cucifera Thebaica*).

On the 8th of January I arrived at Ambukol, and a severe attack of fever arrested my progress until the 24th, when, being sufficiently recovered, I resolved to cross the desert of Bayúdah* to Khartúm, a route, I believe, not previously passed by any European traveller. Thermometer 75°. I engaged camels at 25 piastres each from Ambukol to Khartúm. My first day's journey was short, as first day's journeys always are in the East; and I rested for the night, after travelling 2½ hours, at a place to which the Arabs have given the name of Berj el kurán (Koran tower).

On the 25th I travelled 7½ hours, and rested at Khór-el-ghaním. On the 26th 9 hours to Abú Samúd.

On the 27th, in 3 hours we reached the wells of Bayúdah. Many wells have been sunk, but we found water only in three, and in very small quantities. The water is good, free from any brackish taste, thick, and of a deep yellow colour, deriving these latter properties from the soil through which it passes. The water which we had brought from the Nile was putrid and nauseous, and we were glad to avail ourselves of the opportunity of procuring a fresh supply. We were delayed several hours in taking a small quantity, the wells having been visited during the morning before we arrived by Arabs, who had drawn largely upon the springs for their goats, sheep, asses, and camels. These are the only wells between Ambukol and El Hajir; the latter the point at which we met the Nile again. In the afternoon we resumed our journey, crossed a small ascent of about 70 feet, and rested for the night, after 3 hours, at Khór-el-Laban. The distance on the 27th, six hours (18 miles). On the 28th, 8¼ hours, to Kús Abú Deluah. On the 29th, 7 hours to El Atherleh. On the 30th, 8 hours to El Gharah.

On the 31st, in 3½ hours we arrived at the Nile, leaving the Desert between two rocky hills, El Hajír, about 150 feet high, on the right, and Jebal-el-Róyán (situated on an island of the same name), about 250 feet high, on our left.

I crossed the desert of Bayúdah, as I have shown, between Ambukol and El Hajír, and the journey is usually performed in seven days, though it might with ease be made in six. It is flat, with few hills, and those small and of easy ascent. After leaving Ambukol, the surface is alternately sand and gravel, but the sub-

* بُوْدَه from its whiteness.—F. S.

stratum is sandstone, and continues to be such till within an hour of reaching Abú Samúd, where we came upon grey granite, furrowed by veins of primitive quartz. The gravel, both to the N. and S. of Abú Samúd, contains quartz pebbles in great abundance; and I noticed also portions of siliceous fossil trees, similar to those observed at Haagbarlak. At Abú Samúd, the wells of Bayúdah, and in short as far as El Hajír, sandstone occurs with only one exception, where a vein of red granite crossed from W. to E. between these two latter places. I observed occasionally stones of a yellowish grey colour, spotted with black points, resembling those which are thrown up by Vesuvius during its eruptions. I also found abundance of fragments of hard sandstone, containing quartzose pebbles, which were in patches, and at no great distance from each other. The patches of stones of a grey colour, which appeared volcanic, were at least 40 or 50 miles from the hills; and though they appeared to have been deposited after some volcanic convulsion, we were unable to discover any extinct volcano; the sand does not drift much in this desert. I also occasionally found hard black cinders. It is, however, remarkable that these isolated patches are found at so great a distance from the mountains. At 8 hours S. of Ambukol we came upon patches where water had collected during the periodical rains; and upon looking at the map I observed that Mr. Arrowsmith had laid down their northern limits very correctly.

The desert of Bayúdah abounds in herbaceous plants, and one or two varieties of the mimosæ. It also possesses many objects of great interest in the zoological kingdom, especially the leopard, oryx, and gazelle. Its few inhabitants belong to the tribe of Kabábish Arabs.*

In 2 hours and 40 minutes we halted for the night at Jagjoke.

Feb. 1. We travelled 8 hours and 40 minutes to Kerrerí. On the following day, in 4 hours, we arrived at the northern point of the White Nile (*Níl el Abyad*), on which we embarked, and in less than an hour arrived at Khartúm.

The direction from Ambukol to El Hajír was from N.W. to S.E., and the distance occupied us 52 hours' march, which, at $2\frac{1}{2}$ miles per hour, would give us 130 miles; from El Hajír to Khartúm, from N. to S., following the course of the river, 16 hours 20 minutes, or about 42 miles.

The position of the junction of the Bahr el Abyad, or White River, with the Bahr-el-Azrak, or Blue River, in the observations given me by M. Linant, is $15^{\circ} 34' 40''$ N., and $32^{\circ} 11' 25''$ E. of Gr. These observations do not agree with those already made by the same gentleman, and published in a memoir on the Bahr el Abyad, in the second volume of the London Geographical

* Plural of Kabbásh, "a shepherd."—F.S.

Journal; for M. Linant there gives the position of the junction of the two rivers as $15^{\circ} 34'$ N. lat., and $32^{\circ} 30' 58''$ E. long.* Mr. Perring, a civil engineer in the employment of Mohammed 'Alí Páshá, who kindly undertook the construction of my map, pointed out the discrepancy between these observations; and we immediately saw M. Linant on the subject, when he told us that he considered the list furnished to me, from which I took all the fixed points, to be the most deserving of reliance, because he carefully looked over and corrected his observations after his return to Cairo, and subsequently to his sending his papers to the African Association.

Khartúm (the Proboscis) is situated on the W. bank of the Blue River, about $1\frac{1}{2}$ mile from its junction with the Bahr el Abyad. It is the seat of government of the Beled-es-súdán, and the present governor is Khúrshíd Páshá. It was a small village when Mohammed 'Alí subdued the kingdom, but has risen rapidly into importance at the expense of Shendí and Sennár, and is now a place of considerable trade, being convenient as a rendezvous for the slave-caravans from Abyssinia, Sennár, and Kordofán. It contains 15,000 inhabitants, including about 1600 soldiers and their families. Parts of it are regularly built. Many of the houses are large and isolated, enclosed by a garden. They, as well as Khúrshíd Páshá's palace, which is by no means striking, are built of sun-burnt bricks. The bázars are irregular, small, and confined, and, when the troops are absent, extremely ill-supplied. The principal articles of consumption are shoes, calicoes, printed goods, sugar, rice, broad cloth, pistol-belts, saddles, worked saddle-cloths, a little tea, crockery, hardware, *mishmish*,† *kamar-ad-dín*,‡ &c., and a considerable trade in slaves is carried on both by auction and private contract. Just outside the bázár is the market for vegetables, bread, fruit, sugar-cane, butter, dates, grain, straw, grease for the head, &c. &c. And here stands the frame to which criminals are suspended when executed, complete with rings and accommodation for three persons.

The land upon which Khartúm is built, as well as that which surrounds the town, is rich alluvial soil, similar to the deposit of the Nile. The ground is flat and without trees. The banks of the river at the season of low water are about 30 feet in height, and I should think, from their appearance, that the average rise of the river here is about 20 feet. During this, my first stay, at Khartúm, the mercury in the thermometer never stood in the daytime below 75° , but on the 10th of February it rose to 90° .

Feb. 11. I left Khartúm to proceed up the Blue River, Khúrshíd Páshá having provided me with an excellent boat

* Vol. ii. p. 171.—Long. $32^{\circ} 41'$ is adopted in the map from Bruce's observations at Halfayeh.

† Dried apricots.

‡ The pulp of apricots spread out and dried.

for that purpose, and on the 15th I arrived at Abú Kharráz, on the E. bank, and at the junction of the Rahad, an eastern tributary stream about half a mile wide, of blue water and rapid current. Here is a village of considerable size, and a station of 300 Moghrebí cavalry. Most of the houses are of straw, of a circular form, and resembling corn-stacks. There are only one or two, of sun-burnt brick, and the largest of these is that of the káshif. There is a market here daily; the wares are scanty, in small quantity, and of inferior quality. On the same day I crossed the river to Wád Medínah, and in an hour reached a military post, where one battalion of 800 men is stationed. Here is a daily market, small, and ill supplied with articles of a very coarse description.

There are two large bázars held in the neighbourhood of Wád Medínah weekly; that to the northward is at Sálemiyah, the other, to the S.W., at Sorribah. To the latter I went on the 16th. The village is situated about 6 miles from the river, and the road to it is over a rich plain. Dhurrah (millet or sorghum) is cultivated round it in patches after the kharíf or rainy season is over, but for want of capital and labour by far the greater proportion of the soil lies idle. This market was well attended, principally by Bedowins, and the wares exposed for sale much better than those at Abú Kharráz and Wád Medínah. The banks of the river at Wád Medínah are about the same height as those of Khartúm, and I should think that the rise of the Nile is in the same proportion. Thermometer at Wád Medínah, Feb. 16, 88°.

On the 17th I left Wád Medínah, and at 4 P.M., on the 21st, I had moored my boat immediately below Sennár. I took up my quarters in a house in the barracks, provided for me by the military commandant; and I was hardly settled in my new habitation before the peasantry flocked in numbers with their manufactures to endeavour to seduce me into becoming a purchaser. Among their wares were mats with beautiful devices made of split dóm (Cucifera Thebaica) leaves, and dyed of various colours, conical straw covers for plates in elegant patterns, silver zerfs (stands for coffee-cups) in filagree, warlike weapons, spears, knives, &c., and lastly, hegabart, or amulets for security from every kind of disease and casualty, including the fatal fever of the country and the voracious jaws of the crocodile.

A small bázár is held daily at Sennár, and the principal articles for sale are butcher's meat, grease, oil, tobacco, dhurrah, bilbil, and merísah;* but on Mondays and Thursdays a market attended by persons for many miles round is held at Kadero, a village to the S. of Sennár, about $1\frac{1}{2}$ mile from it, and between it and Jebel Mowil. That held on Mondays is the largest and best supplied. Near the place where the daily bázár of Sennár is held is a mosque,

* Bilbil and merísah are kinds of beer made from fermented dhurrah.

adjoining to which may be traced the foundations of the palace (now no longer existing) of the last sultán, and near it is a coffee-house, the favourite resort of the military officers and fashionables of this capital.

The banks of the river at Sennár are between 40 and 50 feet high. The Nile rises about 20 feet. The country around is dull, uninteresting, and flat, with the exception of Jebel Mowil, a hill about 800 feet high, six miles S.W. by S. of the town. Scarcely a tree is to be seen except in the distance towards the S. To the N., S., and E., are villages about $2\frac{1}{2}$ miles off.

The inhabitants of Sennár are of a dark-brown colour. The women are lighter than the men, and both are handsome. The latter wear drawers and a cotton shirt reaching to their ankles, or a fold of cotton round the waist, and afterwards thrown loosely over the shoulder. Most of them wear rosaries of black seeds, of ebony, or other wooden beads, round their necks. They almost all have a purse suspended from the neck, hegabart, or amulets, on the right arm above the elbow, and a knife on the left in the same situation. Some wear leather ornaments round the ankles. They generally allow their hair to grow, and do not wear the Tákiyeh, or white skull-cap.

The women wear a fold of cotton round their bodies, thrown afterwards over the shoulders, and sometimes covering the head also. The unmarried girls and slaves usually wear only a ráhat, or leather fringe, round the waist. Their hair is plaited into tresses about the thickness of rats' tails; and this operation of plaiting is preceded by the destruction of the parasites which abound in these localities; a massacre which they carry on against those insects every fortnight or three weeks. The head is then dressed, and loaded with three or four pounds of mutton-suet or camels' fat. Some of the women wear silver ear-rings; all, necklaces of glass beads; and most of them an immense bunch of hegabart suspended from the neck. They also ornament themselves with bracelets of silver, of rings of horn or ivory, plain or slightly adorned with black spots; leather ornaments on the wrists and ankles; and I noticed a few who had a ring or beads passed through a perforation in the right nostril; but this was by no means common. Both men and women have good teeth. In many the gums are black or brown, deriving this peculiarity from their admixture with the negroes. Many of the women allow the nails on the fingers of the left hand to grow to an extraordinary length, an inch or more beyond the tip of the finger, similar to the women and grandes in China. They, however, pare the nails of the right hand, as the not doing so would interfere, they said, with their custom of eating with their fingers. Most of the lower orders possess one or two slaves.

The neighbourhood of Sennár is interesting to the naturalist. A very great variety of animals and birds are to be found during the kharif or rainy season, and when the dhurrah is ripe. At all times the crested crane abounds, as well as several other species of cranes, storks, eagles, and vultures. I observed great numbers of wild guinea-fowls, and many varieties of ducks and geese. Elephants, hippopotami, and crocodiles are in great abundance.

During my stay at Sennár the thermometer never stood lower than 88°; and on the 27th and 28th of February it rose to 94°.

March 2.—At 5 A.M. I took my departure from Sennár by the Nile; at 10 A.M., on the 5th, I arrived again at Wád Medínah; and in the afternoon of the 9th I left it in order to proceed to Monkarah, near Wád Shellái, on the White Nile. In 1 hour and 40 minutes from Wád Medínah we reached the village of El Bessátnér, and in 1 hour and 10 minutes more we arrived at El Leïweh, where we rested for the night.

March 10.—In 2 hours to Heglíghah, and in 3 hours more to Abút. This tract is a dead level, with a soil of the richest quality; but from want of capital, and paucity of inhabitants, little of it is cultivated, and that only during the rainy season. The peasantry are content to raise a crop of dhurrah sufficient to answer the demands of the government, and to maintain themselves during the year. The water of Abút is good and wholesome. Thermometer 90°.

March 11.—In 5 hours we arrived at Monákil, and took a meal of sour milk, pastry, and honey, with a Turkish soldier, káim-makám, or governor of the village. A market, held here every Sunday, is better attended than any other in the neighbourhood. The water of Monákil is slightly impregnated with iron, but by no means unpalatable. In 5 hours from hence we arrived at the small village of El Fákirkír; $\frac{1}{2}$ a mile from which are wells of good water. Our journey to-day was 10 hours.

March 12.—In 1 hour and 20 minutes from El Fákirkír we arrived at the wells of Emm-dakkat, where the water is slightly brackish, though not so much so as to be despised. $3\frac{3}{4}$ hours more brought us to Egárín, a village consisting of several huts, but only three inhabited. The water here also is brackish. We left Egárín in the evening, and, after travelling 5 hours, halted for the night.

March 13.—I resumed my journey at an early hour, and in 6 hours 15 minutes arrived at Monkárah, with the thermometer at 93°. Our general direction, from Wád Medínah to Monkárah, was W., and the distance 86 miles. The price we paid for each of our camels, $12\frac{1}{2}$ piastres [2s. 6d.].

From Abút to Monákil the country is not cultivated; but I am of opinion that in proper hands it might be made available

for agricultural purposes. From Monákil to Monkárah the land is of excellent quality, with the exception of a small strip, about 7 miles distance from the latter place. After having made several excursions into this desert, and crossed from Wád Médinah to Monkárah, I have come to the conclusion, with respect to the country from Jebel Mowil, near Sennár, to Al-leis, westward, and to Khartúm northward, that the greatest portion, if not the whole, of this triangle, is formed by the alluvial deposit of the Nile. The soil of this desert—if desert it may be called—is precisely similar to that near the banks of the river; its surface is nearly a dead level; there are no hills or mountains; and the Nile, even now, rises during its increase to within 2 or 3 feet of the top of its banks, on the Blue and White Rivers; and in many parts of the latter, where no banks exist, it spreads itself over a large tract of country. If a canal were cut from Wád Médinah to Monkárah, with branches N. and S., almost all the land might be used for the production of cotton, indigo, tobacco, sugar, grain, &c. Much might be accomplished by means of tanks for collecting the rain-water during the kharif, and by sinking wells. But still this would not suffice to irrigate the whole of this rich and valuable land. Between Wád Médinah and Monkárah the country is beautifully studded with prickly acacias. Monkárah is one of the Páshá's boat-building stations. There is abundance of wood in the neighbourhood; but little of it is used, as larger and better timber is found near Al-leis, or in the country of the Shillúks. About thirty boats are built here annually. I observed eighteen or twenty pairs of sawyers, and five or six boats on the stocks. The sawyers are negro slaves and convicts. The whole population may be 100 persons.

In travelling in this country it is absolutely necessary to prevent the skin being exposed to the scorching rays of the sun, or it is immediately attacked with swelling and inflammation. Between Abút and Monkárah I was so imprudent as to ride with my legs bare from the knees downward, and when I arrived at the latter village they were so swollen, painful, and inflamed, that I was confined to my bed several days before I was able to proceed to Kordofán.

On the morning of the 15th I crossed over from Monkárah to Kajebí, a small settlement of Hasaníyeh Arabs, on the W. bank of the Nile, and N.W. of the former place. Here were also the tents of Suleímán Káschif, who was collecting the contributions from the villages in the neighbourhood. During my stay at Kajebí a party of Shillúks arrived, accompanied by the son of their sultán. This prince was dressed in a blue cotton shirt, similar to those worn by the felláhs (labourers) in Egypt. They were on their way to Khartúm, for the purpose of endeavouring to make terms of peace with Khúrshid Páshá, and adding their dominions to

those already subject to the Viceroy of Egypt ; a policy they thought it better to adopt than to expose themselves to the annual or biennial incursions of his troops for the purpose of seizing them as slaves. I heard that, subsequently to my leaving the Beléd-es-Súdán, Khúrshíd Páshá had concluded treaties with them, and that they are now subject to Mohammed 'Alí. These Shillúks were fine men; none of them less than six feet high, and many of them several inches taller. They were clumsily formed, their legs being too short for the size of the trunk. The heads of some were shaved : the hair of those unshorn was curled and woolly. Their countenances were harsh and savage, their cheek-bones high, and noses narrow near the root, but broad and flattened towards the nostrils. Like the inhabitants of Denkah, the incisors of their lower jaw had been extracted. The only weapons they had with them were sticks, shields, and spears of a rude construction. Some of them wore a single ring of ivory above the elbow of the right arm. Their prince was distinguished from the others by two large rings of solid silver, which he wore as bracelets on his left wrist. They indulge in smoking, but not to excess. They amused us one evening with several choruses and catches, which they sang in a very pleasing manner, keeping excellent time. They are very expert sportsmen, killing the crocodile and hippopotamus with the same spears which they use in self-defence. At Kajebí, in a double tent, the thermometer reached 112° on the 19th March.

The west bank of the White River is occupied to the N. and S. of Kajebí by Hasaníyeh Arabs, whose only other settlement which I observed was opposite Berber. They are generally fine men, a shade lighter than the Sennárese ; and their females not so dark as the males. They are social, lively, and gay, and their females particularly fond of their national dance, which they accompany by clapping of hands and singing.

March 22.—At $\frac{1}{2}$ past 7 A.M., having procured camels at 25 piastres each, I left Kajebí to proceed to Kordofán, by the desert of Habshábeh. Our guide lost his way and took us in a S.W. direction to Túrah, where we arrived in $6\frac{1}{2}$ hours. The track is over land some portions only of which are tilled; much more might be brought into cultivation, though not all, for some of it is light and too sandy. I noticed the impressions of hippopotami in several places, the first I had seen : they were as much as two miles distant from the present channel, though at the height of the inundation the river passes through temporary channels close to the place where I observed the foot-marks, and there is little doubt but that the animals had been basking in some of these shallow streams which at this season of the year are dry. Túrah is a village consisting of a few circular straw huts ; there is good water in four

wells. In the evening I left Túrah, our direction due W., to Abú ghárát, where we halted for the night. The distance travelled to-day 8 hours 40 minutes.

The next morning a caravan arrived at Abú ghárát, and I soon ascertained that it was that of Abú Medyán, half-brother to the present Sultán of Dár Fúr, who was on his way to Khartúm, intending, with Khúrshíd Páshá's permission, to go to Cairo to endeavour to persuade Mohammed 'Alí to furnish him with troops to proceed against his brother, and, if possible, make Dár Fúr tributary to the Egyptian viceroy. A gentleman at Khartúm had given me a letter of introduction to this sable prince, and I lost no time in presenting myself at his díván. I found him about 25 years of age, of the most complete jet black, with a countenance frank, ingenuous, and pleasing, and features partaking little of those characteristic of the negro; in stature, short and inclined to corpulency. From him I learnt that the present Sultán would detain all Europeans who should enter his kingdom, as prisoners—under the impression that they had visited it to make surveys with the idea of returning to Europe and bringing an army to subdue and overthrow him: that such prisoners he would treat with courtesy, furnish them with a house, good provisions, horses, slaves, a harem, &c., but that a guard would always be stationed at the door, and the state-prisoners would never be allowed even to ride or walk out unless accompanied by an escort. The Sultán resides at El Fásher, which is called also Tendeltí; he has an army equipped with swords, spears, and shields: firearms are unknown amongst them. The inhabitants of Dár Fúr, as well as Dár Márah, to the S. of it, are Mohammedans.

Abú Medyán informed me that the distance from El-'Obeíd, the capital of Kordofán, to El Fásher, was 13 days of camel-journeys. From Kobbeh to Kubkabíyah 3 days, and from Kobbeh to Debbah, nearly opposite to Old Donkolah, 25 days.

In the evening I resumed my journey in a S.W. direction, and in 3 hours arrived at El 'Adáyír. The water at Abú-ghárát is good, while that at El 'Adáyír is brackish. This latter village is situated on the edge of an uninhabited waste, and, as it was a bright moonlight night, I determined to enter it immediately. In 1 hour and 50 minutes we were obliged to stop, as the Hájí was taken suddenly ill. Our journey to-day was 4 hours 50 minutes. Thermometer 96°.

March 24.—I set off early, and in $5\frac{1}{2}$ hours arrived at a single isolated tree, the only one between El 'Adáyír and Habshábeh. In $2\frac{1}{4}$ hours from this spot we passed Jebel esh-shawáyír, a hill about 250 feet high, a little to the left of our route; and $4\frac{1}{2}$ hours beyond halted for the night, after having travelled this day 12 hours 30 minutes.

March 25.—Started at $\frac{1}{2}$ past 6 A.M., and in $3\frac{1}{2}$ hours arrived at the village of El Habshábeh. In passing this 'Akabah or desert-ascent, it is necessary to carry water, as none can be procured between El 'Adáyír and El Habshábeh. Before leaving Monkarah or Kajebí, the traveller should see that each camel is provided with two water-skins to be filled at the wells of Abú-ghárát, in preference to those at El 'Adáyír. The camel-drivers will provide the skins, and suspend one on each side of each camel under the baggage. The water at El Habshábeh is good and plentiful. The desert between it and El 'Adáyír is uninhabited; but we observed occasionally Kabábish Arabs pasturing their camels upon a plant to which they give the name of Askanít,* and which the camels eat with avidity. The plants are covered with fine thorns, which readily enter the skin and give great inconvenience and annoyance to the traveller.

In the evening we travelled $3\frac{1}{4}$ hours before stopping for the night. The distance to-day 6 hours 40 minutes. Therm. 99°.

March 26.—In 8 hours from our resting-place we reached El Kowermát, the water of which is good. Here I met with two pilgrims from Bornú, who were on their way to Mekka. They had come by way of Dár Fúr and Kordofán, and had already been twelve months on their journey. They had a very vague idea of their country, and all the information I could obtain from them was that it was situated upon a river called Shári, which they believed to be one of the tributary streams of the White River, and that the name of their present Sultán is Mohammed.

Between El Habshábeh and Kowermát innumerable trees are decayed and laid prostrate, the work of those destructive insects the white ants, which abound in this desert. The soil between these two places is light and sandy; and very little is at present under cultivation. Encamped for the night after a day's journey of 12 hours 20 minutes. Thermometer 103°.

March 27.—In 50 minutes we arrived at Ed-du'amá, and, our camels and asses being fatigued, stopped here for the day: between El Kowermát and Ed-du'amá the soil is sandy, and few patches of it are capable of cultivation. The only grain produced is dhukhn (sorghum), which appears to thrive well on a light sandy soil. The inhabitants of all these villages are almost wholly uneducated, and have very primitive ideas. A boy asked me at Ed-du'amá how many days there were in an hour?

In the afternoon I left Ed-du'amá, and after 4 hours and 20 minutes stopped for the night. Thermometer 104°.

March 28.—We started this morning early, and in 4 hours arrived at Wád Desakkí [Dhá-s-sákiyeh?]. After having killed a lamb which I procured in the village, I observed that our

* *Pennisatum dichotomum*?—F. S.

camel-drivers, who were Hasaníyeh Arabs, ate the tripe and intestines raw ; and, upon inquiring if such was the custom of these Arabs, they said that they never eat those delicacies otherwise. From Ed-du'amá to Wád Dhá-s-sákiyeh much dhukhn is produced. The soil is light and sandy.

In the neighbourhood of Wád Dhá-s-sákiyeh iron ore, yielding 25 per cent. of metal, exists in considerable quantities. It is found within from 3 to 6 feet of the surface ; and the metal is extracted by placing the ore in a heap with wood and charcoal, and covering it with sand : the fire is then kindled, and by means of bellows a white heat is produced, and the iron runs off. The inhabitants work the ore at their own expense, and make the hasshahshah, or iron money of El-'Obeid, and send also presents of the metal to the shipbuilding station at Monkarah.

The water from the wells of Wád Dhá-s-sákiyeh is good. I left the village late in the afternoon, and proceeded on my journey for 4 hours, when I rested for the night. Our distance to-day 8 hours : thermometer 101°.

March 29.—In $\frac{1}{2}$ hour we arrived at Korsi. The soil between it and Wád Dhá-s-sákiyeh is sandy, and annually produces a considerable quantity of dhukhn. Korsi is the largest village between the White River and El-'Obeid, and contains about 500 inhabitants. A Káschif resides here ; a sheikh, a military commandant, and a few troops. A market is held daily, but poorly attended : on Mondays and Thursdays are the best markets, and these are frequented by the Bedowins and Arabs from the neighbouring villages. The water from the wells is good and abundant. In the afternoon I left Korsi, and after travelling 6 hours and 20 minutes halted in the desert. It is necessary to carry water from Korsi to El-'Obeid, as there are no wells on the road, the villages being at some distance from the caravan track : thermometer 99°.

March 30.—We continued our march early this morning, and in $3\frac{1}{2}$ hours arrived at El-'Obeid. The road from Korsi for the first 4 hours is over sand ; afterwards the soil is firmer ; and, lastly, the sand appears again on approaching El-'Obeid. Our general direction from El 'Adáyír was S.W., and the distance from Kajebí 180 miles ; from Korbáj, a village about 2 miles to the eastward, the descent is very gradual to El-'Obeid ; a little to the N. of the village we passed an isolated hill, about 150 feet high, called Jebel Korbáj.

El-'Obeid, vulgarly pronounced L'Obeyet, the capital of Kordofán, is situated in a plain : it contains 30,000 inhabitants, having increased 15,000 since 1828. The town is straggling, extending about 2 miles from N. to S., and 1 mile from E. to W. The houses are principally built of dhukhn reeds or straw, in the form

of English corn-stacks, and two or three of these houses frequently belong to the same family, and stand within a small enclosure. The house of the governor Mohammed Bey, of Selím Káschif, of the military commandant, and of the Europeans in the service of the Páshá, with one or two more, are built of sun-burnt bricks.

The inhabitants of Kordofán belong to several tribes. The most numerous, called Gúnjárah, consists of adherents of Sultán Faḍl; the second is called Meserbát, and were subject to Háshim, formerly Sultán of Kordofán; the third, El Fúng, belonging to Sultán Idris Ibn 'A'dlám, called also Fúngarawí, probably originally from Jebel Funjí; and the fourth, Iddellaglí, is a tribe of Donkolah. The Meserbát is the tribe properly belonging to Kordofán. In choosing a wife a man is not obliged to marry a woman of Kordofán, and *vice versá*. In many Arab tribes, if a man marries a woman of another tribe and loses his wife, he is not afterwards allowed to marry one of his own tribe. The tribe of Aulád Seíd, for example, which inhabits Jebel Tór, in the peninsula of Mount Sinai, does not permit a man who has once married out of his tribe to take a wife from it afterwards: but in Kordofán, if a man of Gúnjárah marries a woman of the Meserbát, and either divorces her or loses her by death, he can marry into the tribe to which he himself belongs, or into any other, as he chooses. Kordofán has been subject to Mohammed 'Alí Páshá about sixteen years. Before he obtained possession of it, it was a province of Dár-Fúr; and when subdued by the Defterdár Bey was governed by Towáshí Emm-sellam, a black eunuch, who, with the assistance of Ibráhím Idwír, a sultán of Dár-Fúr, maintained a contest against the Turks for an hour, when, both he and the sultán being killed, his people gave way, and submitted to the government of the viceroy of Egypt.

A market is held every afternoon at 4 o'clock, where provisions of the most ordinary kind are offered for sale, principally the produce of the country. Grease, for anointing the hair and skin, is in the greatest demand; and in April and May, just before the periodical rains, good water fetches a high price: for, with the exception of the well attached to the governor's house, and one or two others in the town, all the water obtained from the public wells is so brackish as to be unpalatable even to the natives of the place. The Páshá's money, Spanish dollars, and English gold, are current in the bázár; but as every article of life is so remarkably cheap, and small change very scarce, the peasantry in Kordofán make an iron money from the ore obtained from the neighbourhood of Wád Dhá-s-sákiyeh, and to which they have given the name of Hassháshah. This money resembles a section of a mushroom, is made without any reference to weight, and each piece passes for one párah, forty being equal to one Turkish

piastre, which, according to the present rate of exchange, is equal to about $2\frac{1}{2}d.$ sterling. All money transactions are made in reals, an imaginary coin, equal in value to 15 piastres.

The troops stationed in Kordofán were marched annually after the kharif to Jebel Núbah, for the purpose of capturing slaves from these mountains. These expeditions were called Ghazíyeh,* and when I arrived at El-'Obeïd the troops had just returned with the produce of such an expedition. The handsome women were sold for the harems of the Turks and Arabs; the able-bodied men were placed in the ranks; the decrepit of both sexes, the pregnant females, and young children, were allotted to the soldiers in lieu of money to the amount of a moiety of their arrears. I once witnessed this distribution; and a more heart-rending scene cannot be imagined: for, though these blacks had been seized two or three months, and had been deprived of their liberty, they felt severely the final separation from their friends and families. As the soldiers were many months in arrear, they were obliged to receive the slaves considerably above their value, and sell them again at a great sacrifice; and many were compelled to turn their slaves into money, in order to relieve their immediate embarrassments. A slave, therefore, who had been received by two soldiers in lieu of 300 piastres, was sold in the bázár for little more than half that sum; and many were daily hawked about and disposed of by public auction.

The slaves are of various prices, a child 4 or 5 years old is worth 50 or 60 piastres (10s. or 12s.); an adult sells from 4*l.* to 6*l.* Beautiful Dár-fúwí girls are in great request; and an unexceptionable looking one will fetch from 15*l.* to 20*l.* Abyssinian women are much in demand, and sell from 10*l.* to 20*l.* a-head. But, for domestic purposes, slaves from Dár-für are preferred.

Up to the period of my visiting Kordofán, the bodies of negroes and criminals were never interred, but thrown outside the town to be devoured by birds and beasts of prey. When Mohammed Bey succeeded Muṣṭafá Bey as governor, one of his first orders was to collect and burn all the human bones in the vicinity of El-'Obeïd, and to direct that slaves, in future, should be interred according to the Mohammedan rites of sepulture.

But the most distressing circumstance resulting from the slave trade, and one more than any other calculated to excite our sympathy, is the system of emasculation carried on at El-'Obeïd. This

* It is gratifying to add that, owing to representations I made to Dr. Bowring, when he was in Egypt, he succeeded in obtaining a promise from Mohammed'Alí Páshá to abolish the Ghazíyehs in the Beléd-es-Súdán, to discontinue paying the troops in slaves, and to punish slave-dealing amongst the soldiers. And there seems reason to believe, from what I have since heard, that his orders have been carried into effect.

operation is principally performed by Melik Tamar, brother to the late Sultán of Dár-für. He belongs to the tribe of Gúnjárah, which tribe is remarkable for having black nails, caused by the natural deposit of the *rete mucosum*. For many years he enjoyed an exclusive monopoly of this brutal practice, but, as his success was great, other persons, finding they could realize a larger profit by making their captives eunuchs than by selling them as ordinary slaves, adopted a similar profession. As Sultán Tamar is a man of considerable celebrity, I visited him; I found him infirm, about seventy years of age, with a haggard countenance, of a jet black hue, and having a scanty white beard, which he had dyed red with hinná (*Lawsonia inermis*). When he spoke he held his hand before his mouth, anxiously concealing his nearly toothless jaws. He said that he first came to Kordofán 36 years ago, and remained there till the Defterdár subdued it, when he returned to Dár-für, but, having received a hint that his presence was not agreeable, and fearing assassination, he removed to Sennár, and when the new government was finally arranged returned to El-'Obeíd, where he now enjoys a pension of 600 piastres (6*l.*) a-month from Mohammed' Álí Páshá. He emasculates from 100 to 150 slaves annually, and the same number are mutilated by the other operators in Kordofán. Sultán Tamar is always in difficulties, and (which is remarkable) he is very charitable, keeps open house, and his consumption of grain amounts to about 500 ardebs (2500 bushels) a-year. He inhabits a curiously-arranged straw-built house, and possesses 200 slaves. His slaves, whenever they bring him water or sherbet, fall upon their knees, present the cup, and do not rise again till they have left their mighty master's presence. The subjects selected for emasculation are boys from 7 to 11 years old. All the organs are removed,* and the operation rarely proves fatal, not more than 5 per cent. There is a military hospital at Kordofán; a powder-magazine enclosed in a fortification of mud walls, upon which are mounted two pieces of cannon; a mosque recently erected; and about a mile to the east of the Governor's house is a large water-tank, made by Rostan Bey when he was governor, on the edge of which he built a summer residence, now in ruins, where he passed much of his time in the society of his women.

The men of El-'Obeíd are well made, spare, and tall. Their features are handsome, and their skin of a dark-brown colour. Their hair is slightly curled, and they generally wear it long and plaited. Their dress consists only of a piece of cotton cloth over the pubis, with a cord round the hips to keep it in its place, or of

* The Arabs have a peculiar term for this complete mode of castration: former observers however have found the mortality in such cases to be very great.—F. S.

a cotton shirt and drawers. Some wear the tákíyeh, and a very few the tarbúsh and turban: many have *hegabart* above the elbow on the right arm; and almost all carry a knife upon the left, and frequently a pair of tweezers are thrust into the sheath of the knife, which the peasants use in removing the thorns of the as-kanít.

The women are generally very beautiful, and are a shade or two lighter than the men. They wear their hair long, plaited, and loaded with grease. Their dress consists of a piece of cotton cloth round the waist, generally passed over the shoulders; many of them wear silver ornaments round their necks, bracelets, earrings of a tremendous size, ponderous nose-rings, and ornaments for the ankles. Some have a few beads of gold, mixed with glass or other beads, round their necks; and those who cannot afford ornaments of gold or silver wear them of horn, leather, wood, or iron.

The female slaves and girls wear the ráhat or leather fringe round the waist, sometimes ornamented with cornelians and silver balls. The children of both sexes generally go naked till the age of 6 or 8 years.

Throughout the Beled-es-Súdán, but more in Kordofán than in any other part of it which I visited, many of the men, and almost all the women, have three or four perpendicular gashes on each cheek. This disfigurement is considered by them as a great beauty. I observed, also, some of the women cut on the temples, shoulders, fore-arms, breasts, and back, on one and sometimes on all these parts. This operation is performed with a razor, and the parts cut are then rubbed with wheaten flour and water to prevent the edges of the skin from uniting, and to cause the parts to heal by granulation; for the higher the skin is raised after this process, the more beautiful is the effect produced. Both sexes perfume themselves once or twice every month. The women are fond of dancing, and perform on the darabúkah or drum. The men amuse themselves with playing on the zomárah or flute, made of a reed; while both sexes perform on the harebábah, or lyre of five strings.

The diet of these people is simple: their fare consists of dhukhn, a grain which grows well on a sandy soil, made into porridge or bread; bámiyah, a mucilaginous vegetable,* sour milk, and the seed of the askanít, a plant abounding in the desert, but occasioning a violent diarrhoea to those who are unaccustomed to eat it. They also drink arrack,† a spirit distilled from dates,

* Okra of the West Indians: the *Hibiscus esculentus*, "le plus glutineux des légumes," says M. Olivier.—F. S.

† Arakí. The word here used is a Greek word adopted by the Turks.—F. S.

bilbil, and merísah. The women are more frugal in their diet than the men, and rarely eat animal food.

The prevailing diseases are fever, dysentery, and small-pox, the latter being very destructive. The plague is unknown here, and ophthalmia a disease of very rare occurrence. Senna (*Cassia Senna*) is indigenous and very abundant in Kordofán. Round the town there are twenty or twenty-five very large trees, called Tebel-dír or Hamrá : I have no doubt they are the monkey-bread (*Adansonia digitata*), as they bear a fruit of an oval form, something like the vegetable marrow, and when dried, the natives eat the inner substance, which is white and farinaceous, surrounding irregularly-formed brown seeds. The flavour of this fruit is a pleasant acid. I measured the circumference of one of these trees at the base, and found it to be 48 feet. White ants (termites) abound at El 'Obeíd, and commit great devastation. There are a few dogs which belong to nobody, but not so many as at Khartúm and Sennár : hyænas are frequently seen in the neighbourhood. Within a few days' journey from El 'Obeíd the cameleopard is found, and Muṣṭafá Bey had procured six the year before I was there, but from want of proper management all but one had died. There is a beautiful variety of the goat at Kordofán : it is not indigenous, but was originally brought from Jebel Núbah, where it is wild, but when taken is easily domesticated : the same species is found in Jebel Fungí, to the south of Sennár.

The exports, with the exception of slaves, are entirely monopolised by the government : they consist of gold, silver, hides, ivory, and gum Arabic. Slaves are allowed to be exported from Kordofán on the payment of a heavy duty.

On the 14th of April Mr. Rusegger, a German mineralogist, employed by Mohammed 'Alí, arrived at El 'Obeíd on his way to Shábún to inspect the gold-mines.

Seven miles to the S.E. of El 'Obeíd is the village of Milbess, beautifully situated, and the summer residence of the principal persons in authority. The land here is rich and productive ; good water is found in shallow wells, of which the inhabitants avail themselves for artificial irrigation, raising it by manual labour. Half a mile to the W. of Milbess are some hills about 140 feet high, the formation of which is primitive quartz, and from the summit of any of them there is an extensive view of the desert, and of Jebel Daïr,* about 25 miles to the S., a small chain of mountains which, though only one day's journey from El 'Obeíd, is not yet subject to Mohammed 'Alí Pashá, and is the favourite resort of slaves who have absconded from the capital.

* The Dyre and Tuggala Mountains of Bruce.—F. S.

Six or seven days' journey to the S.W. of El 'Obeïd is Jebel Núbah, whence the Páshá used to carry off slaves annually. The inhabitants of this chain are, generally speaking, handsome, and, if they are not frequently sold from hand to hand, turn out good and faithful domestics. They are dark, though not black, with much less of the negro feature than the Shillúks, Denkáwís, or inhabitants of Dár-für. I observed many of the women from Jebel Núbah with perforations in their ears and chin, into which small pieces of wood had been introduced; and the females of Jebel Minmin, an offset of Jebel Núbah, extract the incisors of the lower jaw, a practice adopted by the Shillúks and people of Denkah: the men do not observe the same custom. The Núbáwís salute each other with the two first fingers of the right hand, snapping them twice with those of their friend. The thermometer ranged from 90° to 97° Fahr. at 2 p.m. in the shade during my stay at El' Obeïd.

April 15.—After sixteen days spent at El 'Obeïd I quitted it at half-past 4 p.m. on my return to Korsí, and arrived there at a quarter to 7 A.M., on the 16th, having rested only 1½ hour on the road during the night. Having determined to proceed by the desert of Sakrah, I took a guide from hence to the village of that name. In 2 hours from Korsí I arrived at Umm-hájir, and was obliged to stop, as the Hájí was suffering from bruises which he had received in a fall from his dromedary on our leaving Korsí. The people of Umm-hájir were kind, willing, and obliging: they gave me, immediately upon my arrival, the best house in the village, and provided me without delay with a kid, fowls, milk, straw, dhukhn-bread, &c.

April 17.—I left Umm-hájir at 10 minutes to 5 p.m. In 1 hour we arrived at the village of Rokab Ardam; in 1 hour 30 minutes at Gamrah Hamdasíd; in 50 minutes, after passing El Fásher, we reached Wád Berri; and in 2 hours 5 minutes from thence we arrived at Umm-bálaghí, where we rested for the night. Here we found comfortable quarters and procured provisions without difficulty as soon as the inhabitants perceived that it was my intention to pay for everything I required. The soil from Korsí to Umm-bálaghí is very light and sandy: it is adapted for dhukhn, and a great deal is grown. After leaving Korsí the best water is found at Umm-hájir and Rokab Ardam. In all the other villages the water is brackish, and it is slightly so at Umm-bálaghí: our journey to-day was 5 hours 25 minutes.

April 18.—At 5 p.m. we left Umm-bálaghí and in 1 hour arrived at El Kau; here iron-ore is found close to the surface of the ground, and is excavated and wrought for the government. Two hours farther we passed El Margler, a populous village for this part of the country, where I observed a schoolmaster teach-

ing twenty or thirty boys by the light of an enormous wood-fire. One hour beyond we arrived at 'Abd-al'ír, where we halted, having found a comfortable straw hut, and without difficulty obtained everything in the way of provisions, &c., I required. Good water is found at all three of these villages: thermometer 96°. Our journey to-day 4 hours: for the last two days we travelled slowly, in consequence of the indisposition of the Hájí.

April 19.—At 4 hours and 20 minutes P.M. we left 'Abd-al'ír, and in 1 hour we passed Aúlád Marghah; 2 hours thence we reached Assereághah; 1 hour beyond El Serreh; and in 3 hours farther we arrived at Umm-hájir: its present local governor is Sheïkh Bakít, a man of some importance, inasmuch as he commands and collects the revenue of sixteen villages. He is an excellent fellow, ready, obliging, and attentive. He brought us abundance of provisions, and a little dhukhn, though there was a scarcity in the village, the poorer people being obliged to subsist on bread made from the askanít. Good water is found at all these places with the exception of El Serreh, where it is brackish. Our distance to-day 7 hours.

April 20.—Left Umm-hájir at 5 P.M., and in 2 hours arrived at Esh-shatíb, and in 1 hour from thence at Almána. Thus far Sheïkh Bakít accompanied my caravan to provide a guide to conduct it to Abú Ghárát. My conductor from Korsí was discharged, and a new arrangement was quickly made with the son of the Sheïkh of the village, to pilot us through the desert of Sakrah. During the delay occasioned by coming to terms, the Sheïkh regaled us with fresh milk, sour-milk, and dhukhn-bread: quitting this place, in 3 hours and 20 minutes we arrived at the village of Sákrah. The Sheïkh had retired to rest, but we soon aroused him, and, after a little grumbling, he provided us with comfortable quarters. Our journey to-day, 6 hours and 20 minutes. The water good throughout—thermometer 102°.

April 21.—We left Sakrah at 5 P.M., and, after proceeding 6 hours and 30 minutes, we halted in the desert. It is necessary to take water from Sakrah, as none drinkable is found between it and Abú Ghárát. Thermometer 104°.

April 22.—At 3 A.M. we were *en route*, and in 5 hours and 30 minutes arrived at Bír el Helbah. This well was dug a year ago by the Jowámát Ash-shenít Arabs, a tribe who inhabit a portion of the desert near Wád Dhá-sákiyeh, and who are under the immediate command of Sheïkh Hayásín of Korsí. These Arabs informed Muṣṭafá Bey of their intention of sinking a well, and said that if they succeeded in finding good water, they would settle here, but, after digging to a very considerable depth, though they found water in great abundance, it was so bitter and brackish as to be totally unfit for use. They therefore gave up all idea of

settling at this place. Adjoining the well is a small straw hut built by these Arabs.

Just before we arrived at Bír el Helbah, to the N.W. of the well, and on our left, we passed a small hill named Jebel el Helbah, and to the N.E. of it is a hill somewhat larger, called Jebel el Mináwerát. Each is isolated, and they are the only two hills I observed in this neighbourhood.

At 5 p.m. we resumed our journey, and, after travelling $5\frac{1}{2}$ hours, rested in the desert. Shortly after leaving Bír el Helbah, we met with a great many ostriches and a herd of oryx: the former are found all along this road from Korsí to Abú Ghárát, but especially between the latter place and Sakrah. Our journey to-day was 11 hours. Thermometer 107°.

April 23.—We started again at 4 a.m., and in 5 hours and 45 minutes arrived at Abú Ghárát. I went to my old quarters, the residence of Abdallah the Káim-mákám. He was absent: but his household attended to our wants. I observed in the village a number of women dancing their national dance to the music of the darabúkah, singing and clapping of hands, and, upon inquiry, I found that they were showing this demonstration of feeling out of respect to one recently deceased. I had now passed the two routes from Abú Ghárát to Korsí, the one by the desert of Habshábeh, the other by the desert of Sakrah, and I decidedly give the preference to the latter. In the first place there are abundance of lice which attack the person most furiously on the Habshábeh route—none on the Sakrah. There are more villages and better water on the latter route than on the former. Few caravans pass by the desert of Sakrah, and the inhabitants, from not being plundered by the Turkish and Arab soldiers, are more willing and obliging. The only inconvenience on this route is the greater quantity of askanít, and the annoyance of the thorns on the trees, which in many places overhang the track.

April 24.—At 4 a.m. we left Abú Ghárát, and in 7 hours arrived at the river opposite Monkárah: we took the road direct between these two places without going round by El 'Adáyir and Túrah. The distance therefore from El 'Obeid to the White River, opposite Monkárah, is 67 hours 45 minutes, which, at $2\frac{1}{2}$ miles an hour, gives about 170 miles. The general direction is N.E.

I shall abstain at present from any observations relative to the White River, beyond mentioning that I left Monkárah on the 25th of April in a boat belonging to the government, arrived at the junction of the Bahr el Abyad with the Bahr el Azrek on the 29th, and on the following morning reached Khartúm. During my second visit there were two remarkable hurricanes of wind and sand—the first on the 2nd of May, at 2 p.m., and the

other on the 14th of the same month, at 4 in the afternoon. That on the 2nd commenced more gradually than that on the 14th. In both these hurricanes the wind was from the S.E. On the 2nd, after blowing tremendously for twenty minutes, the atmosphere was of a blood-red colour, succeeded by total darkness: this lasted for a quarter of an hour, when it began to be lighter, and, at the end of two hours from the commencement, subsided a little, though the wind blew hard all the afternoon and during the night. The air was charged with fine sand for two or three days afterwards. The thermometer during the hurricane was 102°.

On the 14th, while riding near the river, I saw the second storm approach, and it appeared as if an immense chain of sand-stone rocks was driven before the wind. I had just time to reach the residence of Signor Boreani, when it overtook me, and darkness came on instantaneously. This lasted for ten minutes, when the atmosphere assumed a deep-red colour, becoming gradually lighter. It was nearly two hours before the hurricane subsided, and it was followed by a slight shower of rain: on the following day the air was loaded with sand. The thermometer at 2 P.M. on this day was 104°. These winds occur two or three times in every spring, and the inhabitants call them *dohr*. The Arabs assured me that these storms had not visited Khartúm for more than three years.

May 18.—I left Khartúm; on the 22nd arrived at El Mettemmeh; and on the day following I crossed over to Shendi. Here I remained until the 2nd of June, and during the interval made an excursion to the temples of Musawwerát, El Auweh Tayyib, and Kenísat el Kerbekán. On the 11th I reached Berber, having stopped a few days at El Bekráuwiyáh, to visit the Pyramids of Bai and El Jelásafraít, to which M. Linant has given the name of Gabina.

The greater portion of the land between Khartúm and Berber is uncultivated, though it might be advantageously used for the production of grain, tobacco, cotton, and indigo. The inhabitants have been compelled to serve as soldiers, or have absconded into the desert, in order to avoid it, and there is great room for colonization. They are in the lowest state of degradation and oppression, and are addicted to lying to an inconceivable extent. They entertain the greatest fear of a person wearing the tarbúsh, or red cap, mistaking every one with this badge for a Turk; and whatever a traveller requires he must get done by compulsion. Their services are not to be obtained by promises of money or by kindness: they have been so often deceived by their superiors, that they expect the same from travellers; and I never, but with one solitary exception, found that the word of a native of the Beled-es-Súdán was to be depended upon.

Berber is a place of some importance. From its size, I should think that it contained 8000 or 9000 inhabitants. The houses are generally built of sun-burnt brick, of a square form; and many are enclosed in a small court-yard. It is the rendezvous of the slave-merchants from Sennár and Khartúm, on their way to Cairo by the Great Nubian Desert; and a considerable traffic in slaves takes place there. There is a daily market: its present governor is 'Abbás Aghá, a very severe disciplinarian. Berber is a place of great resort of the Bishári Arabs. 'Abbás Aghá has built a mosque, adorned with a lofty minaret. He also built some shops in the bázár, with the profits arising from the rent of which he pays the people employed about the mosque. The thermometer at Berber varied from 100° to 106°.

Before I left Berber I was obliged to provide myself with skins to carry water from hence to Jebel Berkel, as it is not the custom of the country for the camel-drivers to furnish them. Fortunately there are two magazines, one of new and the other of old skins: from the latter I selected those required for my journey.

June 24.—Early in the morning I crossed from Berber to El Wobsh, a village situated on the opposite side of the Nile; and at 6 P.M., on the same day, I set off for Meraweh; and in 3½ hours I stopped for the night.

June 25.—We proceeded at 5 A.M.; and in 1 hour passed some Bedowín tents. The part of the desert which they inhabit is called Abú Kharráz. In 2 hours from this place I rested until the evening, when I resumed my journey, and halted for the night after proceeding 3 hours farther. Our journey to-day 6 hours.

June 26.—We set off at 5 A.M. and in 2 hours 20 minutes arrived at Korrobí. Here is a small natural reservoir in the mountains, which are of a coarse grey granite. We found water left from the last year's rains, sufficient to fill 7 skins, and, though it had a slightly earthy flavour, it was by no means unpalatable. The main feature of the country between the Nile and Korrobí is its flatness. After leaving the river we passed over alternate strata of sand and coarse gravel. At 6 hours' distance from the river we crossed a stratum of coarse grey granite, and afterwards a fine thin slate, containing abundance of mica. Both the granite and slate are furrowed by large veins of primitive quartz. Afterwards sand and broken quartz cover the desert as far as Korrobí, where, as I have already mentioned, there are mountains of coarse grey granite, broken in a rude, wild, fantastic manner; the masses, large and small, having assumed, from some cause or other, round and oval forms. In the afternoon I left Korrobí, and stopped for the night, after travelling 3 hours.

June 27.—We proceeded at 5 A.M., and in 3 hours passed some

hills of granite on our right, to the N. of the road, and about $1\frac{1}{2}$ mile from it. One is of a conical form, higher and more pointed than the rest, and is called Nasbel el Hosán; and this hill, our guide informed us, is reckoned by the Arabs to be half-way between the Nile and the Wells of Shimáil: it may reach 800 feet above the plain. The surface of the desert from Korrobí is generally sand; but after leaving Korrobí we crossed a vein of red granite. Jebel Nasbel el Hosán, as well as the hills around it, is of grey granite; and in many places veins of the same rock appear through the sandy surface. Half an hour beyond Jebel Nasbel el Hosan I rested until the afternoon; when proceeding for 3 hours and 20 minutes farther, we halted in a portion of the desert, where, on our left ($\frac{1}{2}$ mile south of the road), is a small granite hill named Jebel Nasbel el Melh.

June 28.—We travelled 7 hours to-day, and rested at the foot of a hill on our left, called Jebel el Medáyet, where we found a solitary Bedowín tent. From its inhabitants we procured some water, which they had brought this morning from Bír Shimáil; and a great luxury it was, for our own was putrid in the highest degree, and I was suffering from a severe relapse of dysentery, and my thirst was insatiable.

June 29.—We moved on again at 6 A.M., and in $1\frac{1}{4}$ hour arrived at a steep ascent of 25 feet, which having ascended, we passed over a plain strewed with broken stones, very much resembling in appearance fragments of lava. After passing over this small plain we wound round the S. side of Jebel es-Safrah, the hill being on our right, and then arrived at a spot surrounded by hills, where is situated Bír Shimáil. The water of these wells is good, free from saline taste, and possessing only a slight earthy flavour. Between Berber and these wells I noticed many gazelles and large coveys of rock-pigeons. The latter abound also in the immediate neighbourhood of the wells. Our journey to-day 3 hours. As I was still suffering severely from dysentery, I determined to stay a couple of days at these wells. Thermometer 100°.

July 1.—At $\frac{1}{2}$ past 4 P.M. I left the wells of Shimáil, and in 50 minutes we passed on our right what I at first supposed to be an ancient ruined village; but upon inquiry the guide informed me that it was a cemetery of the Mánásír* Arabs. Upon the spot where each body was deposited a stone wall was built, in form resembling the gable end of a house. Each wall was about 5 feet high in the centre, and 7 feet in length, and constructed of small stones, with some neatness, and not unlike the way in which the stone walls are built as fences to the fields in many parts of Yorkshire. This cemetery is called El 'Arafah.

* Plural of Mansúr,

In $1\frac{1}{2}$ hour from the cemetery we reached Bír Abú-karáët. These wells are situated in a small grove of dóm-trees. I had taken sufficient water from Bír Shimáïl not to require to replenish my skins from these, as the guide informed me that though the water was good it was not always in abundance. I observed, however, that the water was springing freely, and that the depth of each well did not exceed 20 feet. At 40 min. beyond I halted for the night, having travelled 3 hours from Bír Shimáïl.

Our tract to-day was exceedingly rough. First, we passed a plain covered with broken stones, followed by a smooth hard surface. Afterwards, we made an ascent, gradual and tedious, and passed over a second plain covered with broken stones, bearing a strong resemblance to the lava of Vesuvius: in fact, the whole plain appeared of volcanic formation. I noticed in many places the lava in a state of decomposition, presenting a similar appearance to that seen at the foot of Vesuvius, though, from the intense heat of a tropical sun, and the small quantity of rain which falls annually in these latitudes, the decomposition was proceeding very slowly. I could not find any craters, or extinct volcanoes.

The hills on each side of our route are distant from each other about $1\frac{1}{2}$ mile. They are numerous, some isolated and others forming small continuous chains. Some are formed of grey granite of a coarse texture, whilst others appear to be composed of freestone. There is no regularity in the disposition of these formations, each appearing when and where one least expected to find them. Of all the scenery I ever witnessed this was the wildest and most savage. There is no verdure, and rarely a single shrub. The desolation is complete.

July 2.—After 4 h. 45 min. travelling, we arrived at Bír Sarniyah, where we remained for the remainder of the day. Before arriving at the wells, we passed a spot where the Arabs turn up the surface of the desert, and at the depth of from 8 to 12 inches they find a saline earth containing impure muriate of soda in large quantities, and from which they make salt for domestic purposes.

Bír Sarniyah is picturesquely situated in the midst of mimosas and dóms. The latter were particularly fine trees, and the ripe fruit hung in clusters upon the branches. There is only one well. It is large, and its sides substantially built of stone. The water is plentiful, and quite free from any brackish flavour, though it is slightly tainted with a putrid taste, which disappears after being a few hours in the skins.

The guide mentioned that the Manásir Arabs, who inhabit this part of the desert, sometimes attack and pillage caravans

whilst reposing at the wells. I therefore deemed it prudent to put on a watch during the night: we were not, however, molested.

July 3.—We left Bír Sarniyah at a $\frac{1}{4}$ past 6 A.M., and shortly afterwards passed a cemetery of the Manásir Arabs. The sun was so hot and oppressive, that, after travelling 2 h. 50 min., we were obliged to stop until the afternoon, when we proceeded for 2 h. 50 min. more. Thermometer 102°. We travelled for 6 h. 30 min. on the following day.

July 5.—We resumed our journey at 20 min. to 5 A.M., and in 2 h. 50 min. arrived at Ed-dukáyet, a village situated on the Nile. Soon after leaving Bír Sarniyah, the stratum is coarse grey granite, with veins of quartz running from S.W. to N.E., and this structure continues to the Nile.

I was delighted once more to arrive at the river, more especially as passing this desert is very severe travelling, and doubly so to me, suffering as I was from a violent attack of dysentery, which would not give way to any remedy that I adopted, though, for the benefit of travellers in Africa, I may state that I found it universally yield in other cases in the course of a few hours to the internal use of ipecacuanha, in about the dose of 3 or 4 grains every 4 hours. With me this remedy produced no effect, but, on the contrary, aggravated the symptoms, and I consequently tried laudanum, and partially succeeded in controlling it until I arrived at Cairo. From Berber to Ed-dukáyet scarcely a tree is to be found along the route capable of affording the least shade, if we except those in the vicinity of the wells: the trees in fact are little more than bushes. Fortunately, for the first 7 or 8 days, the sun was slightly obscured by clouds, or the heat would have been insufferable. Of all the journeys I have made, this desert is the most wild, arid, comfortless, and uninteresting; and I should strongly recommend future travellers to take the line from El Metemmeh to Jebel Berkél in preference to that from Berber.

The whole of this desert is thinly peopled: from Berber to Bír Shimáil it is inhabited by the Hasániyeh Arabs; from Bír Shimáil for two-thirds of the way to the river, by Manásir Arabs; and the last third, towards the Nile, by Seikiyahs.

At Ed-dukáyet the placidity of the stream of the Nile is broken by rocks; and here is a slight rapid. At 1 day's journey from hence, higher up the river, is the fourth cataract.

At $\frac{1}{2}$ past 4 P.M. I left Ed-dukáyet: in 1 hour 30 minutes we passed the village of El Bellal on our right, and in 30 minutes afterwards arrived at the Pyramids of Núrí. In 10 minutes from the Pyramids we reached El Jeráyib, and I repaired to the house of the Sheíkh, where I remained all night.

The land about Ed-dukáyet is rich, but only a small portion of it is under cultivation. It continues good to El Keráyib. Our journey to-day was 6 hours.

July 6.—At El Keráyib the senna-plant is indigenous, very luxuriant, and in great abundance. If properly cultivated, it might afford a great profit to the grower.

At 5 p.m. I resumed my journey, and in 3 hours 20 minutes arrived at Abdúm, a small village situated opposite Meraweh. The distance from Berber to Ed-dukáyet was 54 hours 25 mins., or about 137 miles, in a general W.N.W. direction. From Ed-dukáyet to Abdúm, S.W., 14 miles. The expense of each camel from Berber to Meraweh was 15 piastres [3s.].

July 7.—At daybreak I crossed the Nile to Meraweh, which may have a population of about 700. I remained here until the evening of the 14th, when, having procured a boat, I returned to Donkolah, where I arrived in the morning of the 22nd. On the 25th I took my departure from New Donkolah, and, after a detention for camels of a few days at Hafír, I arrived at Wádí Halfah on the 16th of August, 1837.

To the foregoing paper I beg to append a few observations on the practicability of exploring the sources of the White Nile with a small steam-vessel. If an expedition left Caïro in the month of July in a steamer with a draught of water not exceeding 2 feet, it might, with a little care, pass all the cataracts between Caïro and Khartúm. At high Nile the cataract of Essuan disappears and becomes a rapid. The second cataract is a succession of rapids from Wádí Halfah to the third cataract at Hannek, which latter is most improperly called a cataract, since even at low Nile there is hardly any fall, and not so much as to attract notice. The fourth and fifth cataracts I have not seen; but, from inquiries I made, I learnt that they would form no obstacle; and the sixth is passed without the least difficulty.

In passing all the cataracts it would be judicious to have the steamer preceded by a pilot-boat, sounding as it proceeded, to prevent any accident to the former. I mentioned the subject to Mr. Perring, an eminent civil engineer in the employment of Mohammed 'Alí Páshá, and from his knowledge of the Nile and its peculiarities, he very kindly made a drawing of a steamer which he calculated to be adapted for a steam expedition. He recommended a boat of light sheet-iron, 70 feet long on the water-line, 16 feet beam, and 8 feet deep, including the keel, and which would not, with all requisite stores on board, draw more than 2 feet of water. The power to be two twelve-horse oscillating high-pressure engines, and the fuel to be used wood or charcoal.

If a steam expedition left Caïro in July, it would have time to get to Berber by September, where it should remain until the

termination of the tropical rains, which generally takes place there during that month. An express might be sent from thence to Khartúm to order provisions to be prepared and ready against the arrival of the expedition, so that no delay might be occasioned. It would then proceed up the Bahr el Abyad, and I think six months would be ample time to make surveys of both branches of the river. The expedition might then return to Berber, and when the Nile had risen sufficiently high to pass the cataracts in the following year, it should proceed immediately to Cairo.

The expedition might be composed of the following persons:—

Commander.	4 Artillerymen.
Naval Officer, as Surveyor.	4 Seamen.
Surgeon.	Dragoman or Interpreter.
Naturalist and Geologist.	Cook.
2 Engineers.*	4 Sailors.
Sergeant of Artillery.	Arabs.

Just before my departure from Khartúm, I inquired of Khúrshíd Páshá if he thought it possible to send an expedition with safety to endeavour to discover the source of the White Nile. His ideas of navigation were extremely limited; and being unacquainted with the powers of steam, was unable to give an opinion as to the utility of steam-vessels in such an expedition. He said that he had been 21 days above Al-leïs, on the Bahr Abyad, in the boats of the country, and took with him 700 soldiers. He reached Denkah, having passed the country of the Shillúks. He had several times been a considerable distance above Al-leïs. The expeditions were sometimes attacked at night, but never during the day; and he found it necessary to moor the boats at night off the islands, in preference to the banks of the river. The Shillúks were armed with spears and shields, being ignorant of the use of other weapons of war. The pashá was able to procure dhurrah occasionally from the natives; though he said he should recommend an exploring expedition to take biscuits and all its provisions from Khartúm, and provide sufficient for its return. He thought it would be necessary to take 400 soldiers. He mentioned that the river divided a considerable distance from Khartúm, but he was not prepared to say which was the direction of the White Nile, properly so called. He was of opinion that an expedition could not go and return to Khartúm in the boats of the country in less than twelve months; but when I informed him that a steamer went twice or thrice as fast as a country-boat, against the stream and against the wind, he thought that it might be accomplished in six. He said there were a few rocks above Al-leïs. Between Wád Shelláï and Khartúm the river is clear of these incumbrances to navigation.

* Who would put the vessel together in Egypt.

The advantages of an expedition by steam for this survey must be obvious. First, the tribes to be passed through are hostile, not only to Turks and Europeans, but frequently to each other; and a sailing expedition would require a large number of troops for protection, a steam expedition very few, because it would have no difficulty in moving quickly away in case of emergency. Secondly, if troops were taken, provisions must also be taken for them, and this would greatly increase the size and expense of the expedition. Thirdly, a sailing expedition would require more time for making the survey—in all probability a year or more; and, if so, would be obliged to remain in the country during the rainy season, which is so hurtful to Europeans not acclimatised: whereas, in a steamer, all might be accomplished in six or seven months from Berber, and twelve or fourteen months from Cairo.

The probable expense of such an expedition would not exceed 5000*l.*, and if assisted by government with men and stores, considerably less; doubtless, also, volunteers would be found who would gladly serve in a cause which must excite the greatest interest in all geographers.

Annexed is a brief vocabulary of the inhabitants of Jebel Nubah, which is nearly the same as the Koldagí (Rüppell, *Nubien*, p. 372) :—

Man	Iddi	Goat	Ogninin	Make haste	Murko do shef
Woman	Iddoniū	Ostrich	Tigambin	Come here	Twer
Boy	Nirritando	Pig	Kigan	Go away	Ishur
Girl	Tergo	Rat	Komanin	Yes	Oinko
Father	Annaggan	Flesh	Kwaji	One	Ber
Mother	Aununeng	Knife	Kwattwar	Two	Ora
Brother	Anningtang	Milk	Idju	Three	Toju
King	Kuju	Porridge	Kalju	Four	Kinju
Head	Undin	Dhurrah	Windin	Five	Tishu
Hair	Tilgiu	Water	Otú	Six	Kwasit
Mouth	Aljo	Rain	Harikojú	Seven	Kwalat
Hand	Osigi	Cold	Kedí	Eight	Iddu
Leg	Koordo	Stone	Kwakandin	Nine	Weddu
Skin	Dortouin	Black	Wurrindin	Ten	Bore
Ass	Ondonin	White	Horininin	Eleven	Bore-ber-ku
Camel	Calenin	Red	Kelindin	Twelve	Bore-ora-ku
Cow	Tí	Wood	Oronin	Thirteen	Bore-toju-ku
Dog	Boldin	Cannon	Mötting	&c.	&c.
Horse	Komjn	As-salám	Kendi Ar-	Twenty	Tarbu
Fowl	Kokondin	Aleikom	krá		

[Mr. Holroyd has also communicated to the Society a list of seventy-seven positions of places on the Nile, between Philæ and Sennar, from observations by M. Linant. Many of these have been used in the construction of the annexed map; but as some of the others differ considerably in longitude from the determinations by Dr. Rüppell, their publication is delayed till we can hear from M. Linant on what *data* his positions depend.]